

Improving Mangrove Conservation Awareness Through Youth Sports in the Dominican Republic



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Coastal mangroves are vital as habitats for marine wildlife and for protecting communities from floods and storms. However, they are being lost at a higher rate than any other type of tropical forest.¹ This can have significant consequences as the effects of climate change worsen.

In the Dominican Republic, one-third of mangroves have been destroyed over the past 50 years.² One of the many factors for this loss may be limited community awareness about mangroves' ecological importance. Research suggests that hands-on environmental education may improve young people's attitudes towards conservation, and that their learning may be shared with families and peers.³

In collaboration with IPA, Grupo Jaragua, and Seacology, researchers evaluated whether a workshop focused on the ecological role of mangroves for youth sports teams improved knowledge, attitudes, and behavior towards mangrove conservation in the community.

Key Findings

The workshops successfully increased support for mangrove protection, with effects lasting up to 21 months after the program.

Direct Effects on Youth

- Participants gained a deeper understanding of mangroves' ecological benefits
- Youth shifted from seeing mangroves as obstacles to viewing them as valuable natural resources
- Girls made especially strong gains in knowledge about mangroves, while boys showed broader improvements in environmental attitudes

Ripple Effects Through the Community

- The program's impact extended beyond workshop participants
- Other youth in the same sports clubs, even those who didn't attend workshops, developed more positive attitudes toward mangroves
- Parents of participating children increased their support for mangrove conservation and adopted more environmentally friendly behaviors

Environmental education can be an important way to build community support for conservation efforts. Targeting youth, and existing youth groups, can create ripple effects in knowledge, awareness, and behaviors towards conservation within households, peer groups, and the community.

The Evaluation

In a randomized evaluation (RCT), researchers worked with IPA, Grupo Jaragua, and Seacology to measure whether a conservation awareness workshop for youth sports teams improved households' efforts towards mangrove conservation. In the workshop, boys' baseball teams and girls' basketball and volleyball teams went on field trips to a mangrove and learned about them from biologists and then participated in a conservation activity. After completing the workshop, they received sports equipment.

A total of 28 youth sports teams in communities near coastal mangroves were randomly divided across the following groups:

- **50 percent workshop:** Half of the kids in each club participated in the conservation workshop while the other half participated in a workshop about art appreciation
- **75 percent workshop:** 75 percent of the kids in each club participated in the conservation workshop while 25 percent participated in the art appreciation workshop.
- **Comparison:** All of the kids in the clubs participated in the art appreciation workshop.

Researchers also measured how much households valued mangrove conservation products by offering them mangrove honey at a randomly drawn price.

Results and Policy Implications

The workshop significantly improved household awareness of mangrove conservation between 8 and 21 months later.

Positive knowledge, behavior, attitude shifts for youth about mangrove conservation:

- Increased their knowledge of mangroves, and had improved attitudes towards mangroves, including wanting more mangroves in their communities and shifting their initial thoughts about them from negative and tourism-based to about nature.
- Although boys had higher mangrove knowledge at the outset, girls were more likely to experience increases in knowledge. Boys were more likely to have positive changes in general environmental attitudes.
- Youth in the 75 percent group who did not participate in the workshop wanted more mangroves, suggesting they learned from their peers who were in the workshop.
- Among day-to-day positive environmental behaviors, there was a small decrease in littering.

Effects on youth lead to positive attitude and behavior shifts for parents

- Parents showed increased support for government mangrove conservation investments and had better environmental behaviors.
- Mothers demonstrated particularly strong improvements in general environmental attitudes.

The workshop increased households' interest in buying products that support mangrove conservation but this was not statistically significant.

Overall, the sustained impacts on awareness after a long period for both youth and parents indicate that leveraging existing youth groups can be an effective way to educate communities about environmental issues and increase conservation efforts. More intensive, longer-term versions of this program may result in larger and lasting effects on environmental behaviors.

¹ Bhowmik, Avit K., Rajchandar Padmanaban, Pedro Cabral, and Maria M. Romeiras. "Global mangrove deforestation and its interacting social-ecological drivers: A systematic review and synthesis." *Sustainability* 14, no. 8 (2022): 4433.

² Seacology, "Youth sports programs drive conservation across Latin America," Seacology, 26 January 2022, <https://www.seacology.org/2022/01/mangroves-youth-sports-conservation/>

³ Jaime, Marcela, César Salazar, Francisco Alpizar, and Fredrik Carlsson. "Can school environmental education programs make children and parents more pro-environmental?." *Journal of Development Economics* 161 (2023): 103032.

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